

AF/1616
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TRANSMITTAL LETTER

In re Application of: :
Brian P. MCDONALD, et al. : Docket: ACD 2713 US
Serial No.: 10/031,225 : Examiner: Sabiha Naim Qazi
Filing Date: June 5, 2002 : Group Art Unit: 1616
For: REST-BREAKING COMPOSITION :
AND USE THEREOF :

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Respectfully submitted,

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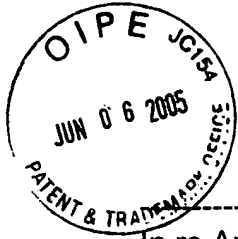
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Diane L. Moxley



PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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BRIEF ON APPEAL

Respectfully submitted,

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Commissioner for Patents
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Sir:

I. INTRODUCTION

Pursuant to the provisions of 35 U.S.C. §134 and 37 C.F.R. §§1.191 and 1.192, this paper is submitted as a brief setting forth the authorities and arguments upon which Appellants rely in support of the Appeal from the Final Rejection of claims 10-26 entered in the above-identified patent application on November 1, 2004 and maintained in the Advisory Action mailed April 18, 2005.

II. REAL PART IN INTEREST

The real part in interest in the present case is Akzo Nobel nv, Arnhem, The Netherlands.

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Diane L. Moxley

III. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences pending or anticipated involving the present application.

IV. STATUS OF THE CLAIMS

The present application was originally filed under the PCT as PCT/EP00/06234 on July 3, 2002. In the Preliminary Amendment filed on January 16, 2002, claims 1-9 were canceled and new claims 11-26 were added to the application. Accordingly, claims 10-26 are pending herein on Appeal, and are reproduced in the Appendix to this Brief.

V. STATUS OF THE AMENDMENTS

In the Preliminary Amendment filed on January 16, 2002, claims 1-9 were canceled and new claims 11-26 were added to the application. In the Response filed on April 1, 2005, claims 1 and 20 were amended to add "choline" salts to the claimed list of acceptable organic, nitrogen containing compounds. All Responses and claim amendments have been entered, and are reflected in the listing of claims provided in the Appendix.

VI. SUMMARY OF THE INVENTION

The claimed invention is directed to a composition comprising **A)** a surfactant, including the alkoxylated surfactants, **B)** an inorganic nitrate rest-breaking agent, **and C)** an organic nitrogen-containing compound which is not the same as, and does not overlap with the surfactant of A). Hence, the claimed invention is directed to a composition that comprises **a 3-component system**. Appellant notes that both pieces of prior art cited by the Examiner to reject the present claims are directed to two (2) component systems.

In the examples presented in the present specification, Example 1 describes a composition comprising **A)** an alkoxylated amine surfactant (Acer907s98), **B)** an inorganic nitrate rest breaking agent (GAN), **and C)** an organic nitrogen-containing compound (AcerCC98), i.e., **a three (3) component system of the invention**. This

composition of the invention is compared with a composition that only contains a **two (2) component system**, components A) and B) (Comp. Example C). In these examples it is clearly demonstrated that the three (3) component system of the invention containing A), B), and C) has a surprising and unexpected technical effect that the prior art compositions comprising only A) and B) (as disclosed in the US patents discussed below) does not possess. This technical effect is an increase in bud break activity. Hence, the further invention is the use of our compositions in a method where the effect is demonstrated, i.e. the method for breaking rest in deciduous fruit trees.

VII. ISSUES

The issues remaining in the present case which require resolution herein on Appeal are summarized as follows:

1. Are claims 10-26 anticipated under 35 U.S.C. 102(e) by either North, et al. (U.S. Patent No. 5,693,591), or Parr, et al. (U.S. Patent No. 5,885,932)?
2. Are claims 10-26 rendered unpatentable under 35 U.S.C. 103(a) by the teachings of North, et al. (U.S. Patent No. 5,693,591) and Parr, et al. (U.S. Patent No. 5,885,932)?

VIII. GROUPING OF CLAIMS

Applicants respectfully submit that the pending claims do not stand and fall together. More specifically, claims 10-16 are directed to a composition, while claims 17-26 are directed to a method for breaking rest in deciduous fruit trees. Appellant's composition claims are obviously broader in scope than method claims 17-26 and as such, appellant submits that they stand and fall apart from method claims 17-26.

IX. ARGUMENT

Initially, Appellant called the examiner on April 28, 2005 to discuss several issues in the prosecution of the present case that require clarification and/or explanation prior to Appeal. These issues are itemized below for the convenience of the Honorable Board.

1. The examiner issued an Advisory Action After the Filing of an Appeal Brief (PTOL-304). It was brought to the examiner's attention that this was the wrong Advisory form in that Appellant had not yet filed their Appeal Brief.

2. The examiner failed to indicate the status of the rejection of Appellant's claims under 35 U.S.C. § 112, first and second paragraphs even though it was believed that these rejections were clearly overcome..

3. Appellant requested clarification regarding why the examiner maintained the rejection of Appellant's claims under 35 U.S.C. § 102(e) as Appellant believed that this rejection was clearly overcome. Appellant indicated that this was necessary in order to simplify the issues for Appeal.

4. In the Advisory, the examiner indicated that Appellant has "not shown any criticality and/or unexpected results." Appellant directed the examiner's attention to the data in the present specification and the clear criticality and unexpected results demonstrated thereby.

5. Appellant indicated that the examiner's application of section 102, 103 and the judicially created doctrine of obviousness type double patenting appeared inconsistent and confused throughout and that Appellant required some clarification from the examiner in order to be able to submit a coherent reply. Appellant also indicated that they were willing to consider a terminal disclaimer if it was deemed necessary by them to gain allowance of the present case.

Unfortunately, the examiner refused to consider this case further which, Appellant respectfully submits, has severely hampered the prosecution of this case. The issues for Appeal have also not been narrowed, which has resulted in Appellant having to file this rather lengthy Appeal Brief.

Appellant's arguments below against the rejections of record, as he best understands them, are presented below.

I. The Rejection of Claims 10-26 Under 35 U.S.C. 112, First Paragraph

In support of this rejection the examiner states that the specification:

“contains only two examples, which are drawn to a synergistic composition and use of alkoxylated amines, WHICH HAS NOT BEEN CLAIMED.”

See page 3, last 5 lines of the office action. The examiner goes on to further say that the

“example in Table 1 represents synergism, which is not claimed. The claimed invention is not limited to synergism. Furthermore, there is not example of the invention as presently claimed.”

See page 4, second full paragraph of the Action. Appellant respectfully disagrees with the examiner. More specifically, as explained in Appellant's response filed April 1, 2005, and as repeated in the discussion of Appellant's invention above (and as Appellant tried to repeat in his telephone conference with the examiner on April 28, 2005), the claimed invention is directed to a composition comprising **A)** a surfactant, including the alkoxylated surfactants, **B)** an inorganic nitrate rest-breaking agent, **and C)** an organic nitrogen-containing compound which is not the same as, and does not overlap with the surfactant of A). Thus, the claimed invention is directed to a composition that comprises **a 3-component system**.

Further, Example 1 describes a composition comprising **A)** an alkoxylated amine surfactant (Acer907s98), **B)** an inorganic nitrate rest breaking agent (GAN), **and C)** an

organic nitrogen-containing compound (AcerCC98), i.e., **a three (3) component system** according to the present invention. **Accordingly, the present examples do exemplify embodiments covered by the present claims.**

Finally, it is worth repeating that the examiner acknowledged that the examples demonstrated synergy. Appellant submits that this synergy clearly supports the patentability of the claimed invention.

In view of the foregoing, Appellant respectfully submits that the present rejection is improper and/or moot. Reconsideration and withdrawal thereof is respectfully requested.

II. The Rejection of Claims 10-26 Under 35 U.S.C. 112, Second Paragraph

Appellant's amendments to the claims in their Response submitted April 1, 2005 have clearly overcome this rejection; reconsideration and withdrawal thereof is respectfully requested.

III. The Rejection of Claims 10-26 Under 35 U.S.C. 102(e) Over North, et al. (U.S. Patent No. 5,693,591) and Parr, et al. (U.S. Patent No. 5,885,932)

The Examiner appears to be alleging, starting at page 8 of the action, that the **organic nitrogen-containing compound** selected from the group of ethylene diamine, (C1-C3)-alkylated ethylene diamines, (carboxymethyl)-tri-(C1-C3)alkylammonium salts, (2-hydroxyethyl)tri(C1-C3)alkyl ammonium salts, (2-hydroxypropyl)tri(C1-C3)alkyl ammonium salts, (2-hydroxybutyl)tri(C1-C3) alkyl ammonium salts, and mixtures thereof, of Appellant's claims is not novel because use of an **alkoxylated amine/ammonium surfactant is already known**. The examiner is respectfully requested to note that none of **organic nitrogen-containing compounds listed in claim 1** is an alkoxylated amine or alkoxylated ammonium compound as disclosed in the prior art documents. More particularly, said compounds are compounds **where**

hydroxyl groups are alkoxyated, resulting in an ether, while in the organic nitrogen-containing compounds of claim 1 the only alkoxyated atom is the nitrogen atom, resulting in a **hydroxyl-functional alk(ox)ylated amine**. This difference appears to be acknowledged by the examiner on the last three lines of page 8 of the action:

The compounds of the present invention differ from the reference in having a 2-hydroxybutyl verses a 2-methoxybutyl, where one hydrogen is replaced by a methyl group, which is considered a homologue."

Homologue or not, Appellant submits that this is a significant difference that renders the application of 35 U.S.C. 102(e) to reject Appellant's claims improper.

At page 9 of the Action the Examiner states that the compounds embraced by the instant claims and the compounds of the prior art are homologues (see lines 1-6). Then, in the context of this **Section 102(e) rejection** the Examiner then states the following at page 9, second full paragraph of the Action:

"Compounds that differ only by presence of an extra methyl group are homologues. Homologues are of such close structural similarity that the disclosure of a compound renders **prima facie obvious** its homologue."

(Emphasis ours.) **Applicants strongly disagree with the Examiner's conclusions.** Initially, regarding homologues, it is fairly basic in the chemical arts that an alkoxyated compound is distinguishable from a hydroxyl-substituted compound, even though the difference may only be an alkyl group. An alkoxyated compound is an ether, while a hydroxyl-substituted compound is an alkanol. These are clearly **NOT HOMOLOGUES** as alleged by the examiner and this can be easily confirmed by reference to almost any chemistry text or dictionary.

But, even assuming *pro arguendo* that they were homologues, that still would be insufficient basis for maintaining the rejection of claims 10-26 under 35 U.S.C. **102(e)**, i.e., a homologue may render a claimed compound **prima facie obvious** under section

103...but it is clear that homologues do not anticipate under section 102. Appellant's attempted to get some clarification from the examiner in the April 28 telephone conference with her...but the examiner was unwilling to discuss this case further.

In view of the foregoing, Appellant respectfully submits that the rejection of claims 10-26 under 35 U.S.C. 102(e) is clearly improper; reconsideration and withdrawal thereof is respectfully requested.

IV. The Rejection of Claims 10-26 Under 35 U.S.C. 103 Over North, et al. (U.S. Patent No. 5,693,591) and Parr, et al. (U.S. Patent No. 5,885,932)

The comments made above are incorporated herein by reference.

Initially, the Honorable Board is respectfully requested to note that the prior art relied on by the examiner (US 5,693,591 to North and US 5,885,932 to Parr hereinafter also represented as '591 and '932) disclose a composition comprising compound **A)** the alkoxyated amine/ammonium surfactant, and compound **B)** the inorganic nitrate rest-breaking agent. **These are two (2) component systems.** In contradistinction the claimed invention is directed to a composition comprising **A)** all surfactants including the alkoxyated ones of the cited prior art, **B)** the inorganic nitrate rest-breaking agent, **and C)** the organic nitrogen-containing compound, wherein the organic nitrogen-containing compound of **C)** is not the same as nor overlap with the surfactant of **A)**. Thus, the claimed invention is directed to a composition that comprises **a 3-component system**, whereas both pieces of prior art relied on to reject the present claims are directed to two (2) component systems.

In the present examples it was demonstrate that when using the composition of the present invention, a surprising and valuable technical effect in overall bud break

in deciduous fruit species was observed. As indicated in the application on p. 3, ll. 10-16, bud break is a parameter for evaluating the rest-breaking activity of a composition.

US '591 discloses an additive that promotes the activity of rest-breaking agents for deciduous fruit trees. US '591 is an equivalent of WO 94/23574, which is discussed in the description of the subject patent application (p. 2, 1st para.). In the present description it is explained that the subject patent application differs from and is inventive over '591 because a more uniform bud break and a desired balance of vegetative and reproductive bud break are reached while an effective break of rest in deciduous fruit species is maintained. Moreover, the compositions of the subject patent application int. al. can be used in economically and environmentally acceptable concentrations and are non-hazardous to operators (see p. 2, 3rd para- p. 3, 2nd para.).

In the examples of the present application it is clearly demonstrated through comparative testing (see Comparison Example C and Example 1) that the further addition of an organic nitrogen-containing compound to compositions comprising an inorganic nitrate rest-breaking agent and a surfactant leads to a clear effect on overall bud break. **Nowhere in '591 is there a teaching or suggestion** of this beneficial effect on bud break by the addition of an organic nitrogen-containing compound selected from the group of ethylene diamine, (C1-C3)-alkylated ethylene diamines, (carboxymethyl)-tri-(C1-C3)alkylammonium salts, (2-hydroxyethyl)tri(C1-C3)alkyl ammonium salts, (2-hydroxypropyl)tri(C1-C3)alkyl ammonium salts, (2-hydroxybutyl)tri(C1-C3) alkyl ammonium salts, and mixtures thereof. US '591 also fails to teach or suggest that the addition of an organic nitrogen-containing compound selected from the group of ethylene diamine, (C1-C3)-alkylated ethylene diamines, (carboxymethyl)-tri-(C1-C3)alkylammonium salts, (2-hydroxyethyl)tri(C1-C3)alkyl ammonium salts, (2-hydroxypropyl)tri(C1-C3)alkyl ammonium salts, (2-hydroxybutyl)tri(C1-C3) alkyl ammonium salts, and mixtures thereof, to the compositions of inorganic nitrate rest-breaking agents and surfactants disclosed in '591.

US'932 essentially discloses the same subject-matter as '591 but for a different application, i.e. non-deciduous fruit trees. Therefore, it is believed to be less relevant than '591 since one of ordinary skill in the art looking for a composition to be applied in the field of deciduous fruit trees would not consult '932.

Regarding unobviousness, the same arguments that distinguish the claimed invention over '591 also apply in distinguishing the claimed invention over '932. More specifically, '932 also only discloses a composition of an inorganic nitrate rest-breaking agent and a surfactant and does not disclose or suggest the further addition of a organic nitrogen-containing compound, nor does it teach or suggest the positive effect on bud break realized by the addition of this organic nitrogen-containing compound.

It appears that in addition to relying on each of the prior art documents individually, the Examiner is also relying on a combination of said documents in order to reject the pending claims. In the first instance, applicants respectfully submit that '591 and '932 documents relate to different technical fields, one to the field of deciduous fruit, the other to non-deciduous fruit. Thus, one of ordinary skill in the art would not be motivated to combine them. Secondly, one of ordinary skill in the art field of deciduous fruit seeking a solution to a problem would not consult a publication in the field of non-deciduous fruit. Thirdly, even if one were to combine the two documents as suggested by the Examiner, one still would not arrive at the claimed invention, i.e., the cited documents fail to disclose or suggest the addition of an organic nitrogen-containing compound selected from the group of ethylene diamine, (C1-C3)-alkylated ethylene diamines, (carboxymethyl)-tri-(C1-C3)alkylammonium salts, (2-hydroxyethyl)tri(C1-C3)alkyl ammonium salts, (2-hydroxypropyl)tri(C1-C3)alkyl ammonium salts, (2-hydroxybutyl)tri(C1-C3) alkyl ammonium salts, and mixtures thereof to the compositions of inorganic nitrate rest-breaking agents and surfactants to acquire the effects indicated in the subject patent

For all of the foregoing reasons, applicants respectfully submit that claims 10-25 stand improperly rejected under 35 U.S.C. 103(a) over '591 and '932 individually or in combination. Reconsideration and withdrawal of the rejection is respectfully solicited.

X. CONCLUSION

In view of the arguments presented herein Appellant respectfully submits that claims 10-26 stand improperly rejected. The Honorable Board is therefore respectfully requested to reverse the Examiner and pass all of the pending claims to issue.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Ralph J. Mancini', with a large, sweeping initial 'R'.

Ralph J. Mancini
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XI. APPENDIX

1-9. **canceled.**

10. **(Previously Presented)** A composition useful for the breaking of rest in deciduous fruit species comprising an organic nitrogen-containing compound selected from the group consisting of ethylenediamine, (C₁-C₃)alkylated ethylenediamines, (carboxymethyl)tri-(C₁-C₃)-alkylammonium salts, (2-hydroxyethyl)tri(C₁-C₃)alkylammonium or choline salts, (2-hydroxypropyl)tri(C₁-C₃)alkylammonium salts, (2-hydroxybutyl)tri(C₁-C₃)alkylammonium salts, and mixtures thereof, an inorganic nitrate rest-breaking agent, and a surfactant.

11. **(Previously Presented)** The composition of claim 10 wherein the organic nitrogen-containing compound is selected from the group consisting of (2-hydroxyethyl)tri(C₁-C₃)alkylammonium salts, (2-hydroxypropyl)tri(C₁-C₃)alkylammonium salts, and (2-hydroxybutyl)tri(C₁-C₃)-alkylammonium salts, and mixtures thereof.

12. **(Previously Presented)** The composition of claim 11 wherein the organic nitrogen-containing compound is a (2-hydroxyethyl)trimethylammonium or choline salt.

13. **(Previously Presented)** The composition of claim 12 wherein the organic nitrogen-containing compound is choline chloride.

14. **(Previously Presented)** The composition of claim 10 wherein the inorganic nitrate rest-breaking agent is selected from the group consisting of potassium nitrate, calcium nitrate, ammonium nitrate, calcium ammonium nitrate, urea ammonium nitrate, zinc ammonium nitrate, and mixtures thereof.

15. **(Previously Presented)** The composition of claim 14, wherein the inorganic nitrate rest-breaking agent is selected from the group consisting of calcium nitrate, calcium ammonium nitrate, urea ammonium nitrate, and mixtures thereof.

16. **(Previously Presented)** The composition of claim 10 wherein the surfactant is an alkoxylated amine or alkoxylated quaternary ammonium compound.
17. **(Previously Presented)** The composition of claim 16 wherein the surfactant is an alkoxylated amine.
18. **(Previously Presented)** A method for breaking the rest in deciduous fruit species which comprises applying to said species a rest-breaking composition which comprises an organic nitrogen-containing compound having a molecular weight of 60 to 300, an inorganic nitrate rest-breaking agent, and a surfactant with the proviso that said nitrogen containing compound is not urea or dinitro-ortho-cresol.
19. **(Previously Presented)** The method of claim 18 wherein the deciduous fruit species is selected from the group consisting of apple species and grape species.
20. **(currently amended)** The method of claim 18 wherein the organic nitrogen-containing compound is selected from the group consisting of (2-hydroxyethyl)tri(C₁-C₃)alkylammonium or choline salts, (2-hydroxypropyl)tri(C₁-C₃)alkylammonium salts, and (2-hydroxybutyl)tri(C₁-C₃)-alkylammonium salts, and mixtures thereof.
21. **(Previously Presented)** The method of claim 18 wherein the organic nitrogen-containing compound is a (2-hydroxyethyl)trimethylammonium or choline salt.
22. **(Previously Presented)** The method of claim 21 wherein the organic nitrogen-containing compound is choline chloride.
23. **(Previously Presented)** The method of claim 18 wherein the inorganic nitrate rest-breaking agent is selected from the group consisting of potassium nitrate, calcium nitrate, ammonium nitrate, calcium ammonium nitrate, urea ammonium nitrate, zinc ammonium nitrate, and mixtures thereof.

24. **(Previously Presented)** The method of claim 23 wherein the inorganic nitrate rest-breaking agent is selected from the group consisting of calcium nitrate, calcium ammonium nitrate, urea ammonium nitrate, and mixtures thereof.

25. **(Previously Presented)** The method of claim 18 wherein the surfactant is an alkoxylated amine or alkoxylated quaternary ammonium compound.

26. **(Previously Presented)** The method of claim 25 wherein the surfactant is an alkoxylated amine.